UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,810	10/10/2001	Adarsh Gupta	CHA920010011US1	7829

23550 7590 09/13/2005

HOFFMAN WARNICK & D'ALESSANDRO, LLC
75 STATE STREET
14TH FL
ALBANY, NY 12207

EXAMINER	
LU, KUEN S	

ART UNIT	PAPER NUMBER
2167	

DATE MAILED: 09/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/973,810	GUPTA ET AL.	
	Examiner	Art Unit	
	Kuen S. Lu	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5-16,18-32,34-43 and 45-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5-16,18-32,34-43 and 45-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendments

1. The Action is responsive to the Applicant's Amendments, filed on July 14, 2005.

2. Concerning the Applicant's Remarks on claim rejections, filed on July 14, 2005, has been fully considered by the Examiner, please see discussion in the section ***Response to Arguments***, following the Office Action for Final Rejection (hereafter "the Action") as shown next. Note the Examiner maintains the same grounds as set forth in the Office Action for non-Final Rejection, dated April 14, 2005, for the claims rejection in the Action.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-2, 5-16, 18-32, 34-43 and 45-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over RepSvr (Replication Server® Design Guide, Sybase Inc., May 29, 1998, hereafter "RepSvr") and in view of Schwaller et al. (U.S. Patent 6,061,725, hereafter "Schwaller").

As per Claims 1, 13, 27, 40 and 41, RepSvr teaches the following:

"providing transaction service on the First server" (See Page 2-6 wherein RepSvr's client applications update active database is equivalent to Applicant's providing transaction service on the First server);

"establishing a database copy on the second server" (See Pages 3-19 and 3-20 wherein RepSvr's creating and initializing the standby database, and dumping in with data from active database is equivalent to Applicant's establishing a database copy on the second server);

"logging at least one transaction from the first server to create a transaction log" (See Page 5-2 wherein RepSvr's transaction log contains primary database changes is equivalent to Applicant's logging at least one transaction from the first server to create a transaction log);

"executing the at least one logged transaction on the second server" (See Page 1-10 wherein RepSvr's replication agent reads the transaction log, transfers to the replication server for reconstructing the change for propagating to the replicating database is equivalent to Applicant's executing the at least one logged transaction on the second server);

"repeating the steps of logging at least one transaction and executing the at least one logged transaction on the second server until a set point-is met" (See Pages 1-8, 1-10 and 3-20 wherein RepSvr's replication server receives primary data transactions, distributes and reconstructs the transactions to the replicating sites, and the site replication agent replicating the transactions to the replicated database until the primary

database is switched over to the standby database is equivalent to Applicant's repeating the steps of logging at least one transaction and executing the at least one logged transaction on the second server until a set point-is met);

"queuing at least one transaction request" (See Pages 1-9, 3-20 and 3-21 wherein RepSvr's replication server allocates stable queues to store transactions following failure of database services or during the active database being switched over to the standby, and further update a record in the new active database for verifying its update on the new standby database after the switch over suggests the teaching of queuing at least one transaction request);

"executing the at least one queued transaction request on the second server" (See Page 3-21 wherein RepSvr's updating a record in the new active database for verifying its update on the new standby database after the switch over is equivalent to Applicant's executing the at least one queued transaction request on the second server); and

"providing transaction service on the second server" (See Page 3-21 wherein RepSvr's updating a record in the new active database for verifying its update on the new standby database after the switch over suggesting the new active database is providing transaction service on the second server).

RepSvr does not specifically teach "wherein a time duration of each repeating step is shorter than preceding repeating step", although RepSvr teaches "transaction service on-the second server is paused until the proving step" (See Page 3-20 wherein RepSvr's preventing transactions or updating of active database until the switchover is

complete and the new active database is available suggests the teaching of transaction service on-the second server is paused until the proving step.

However, Schwaller teaches "wherein a time duration of each repeating step is shorter than preceding repeating step" by increasing or decreasing the size and frequency of transactions as well as the number of transactions per measurement period for database update traffic at the network endpoint test conducted by protocol scripts (See col. 3, lines 38-43).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine Schwaller's teaching with RepSvr's by shortening the duration between the succeeding transaction cycles when the standby database is readying for providing service because both references teach database update on network and the combined teaching would have enabled the switch over of database service from an active server to standby (the database migration) an efficient and smooth transition such that database is migrated within a preset transition time frame and service transition from one server to another is seamless.

As per Claims 31 and 42, RepSvr teaches the following:

"providing transaction service on the First server" (See Page 2-6 wherein RepSvr's client applications update active database is equivalent to Applicant's providing transaction service on the First server);

"a copy module that establishes a database copy on the second server" (See Pages 3-19 and 3-20 wherein RepSvr's creating and initializing the standby database, and

dumping in with data from active database is equivalent to Applicant's a copy module that establishes a database copy on the second server);

"an updating modules updates the database copy until a set point is met by repeatedly" (See Pages 1-8, 1-10 and 3-20 wherein RepSvr's replication server receives primary data transactions, distributes and reconstructs the transactions to the replicating sites, and the site replication agent replicating the transactions to the replicated database until the primary database is switched over to the standby database is equivalent to Applicant's an updating modules updates the database copy until a set point is met by repeatedly);

"logging at last one transaction from the first server received since any immediately providing synchronization to create a transaction log" (See Pages 1-10 and 5-2 wherein RepSvr's transaction log contains primary database changes and synchronizing to the replicating sites is equivalent to Applicant's logging at last one transaction from the first server received since any immediately providing synchronization to create a transaction log);

"executing the at least one logged transaction on the second server" (See Page 1-10 wherein RepSvr's replication agent reads the transaction log, transfers to the replication server for reconstructing the change for propagating to the replicating database is equivalent to Applicant's executing the at least one logged transaction on the second server);

"a transition module that queues at least one transaction request, and executes the at least one queued transaction request on the second server" (See Pages 1-9, 3-20 and

3-21 wherein RepSvr's replication server allocates stable queues to store transactions following failure of database services or during the active database being switched over to the standby, and further update a record in the new active database for verifying its update on the new standby database after the switch over, and updating a record in the new active database for verifying its update on the new standby database after the switch over is equivalent to Applicant's a transition module that queues at least one transaction request, and executes the at least one queued transaction request on the second server);

RepSvr does not specifically teach "wherein a time duration of each repeating step is shorter than preceding repeating step", although RepSvr teaches "transaction service on-the second server is paused until the proving step" (See Page 3-20 wherein RepSvr's preventing transactions or updating of active database until the switchover is complete and the new active database is available suggests the teaching of transaction service on-the second server is paused until the proving step.

However, Schwaller teaches "wherein a time duration of each repeating step is shorter than preceding repeating step" by increasing or decreasing the size and frequency of transactions as well as the number of transactions per measurement period for database update traffic at the network endpoint test conducted by protocol scripts (See col. 3, lines 38-43).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine Schwaller's teaching with RepSvr's by shortening the duration between the succeeding transaction cycles when the standby

database is readying for providing service because both references teach database update on network and the combined teaching would have enabled the switch over of database service from an active server to standby, or the database migration, an efficient and smooth transition such that database is migrated within a preset transition time frame and service transition from one server to another is seamless.

As per claim 2, RepSvr further teaches "providing transaction service on the first server ceases prior to the step of queuing at least one transaction request" (See Pages 1-9, 3-20 and 3-21 wherein RepSvr's replication server allocates stable queues to store transactions following failure of database services or during the active database being switched over to the standby, and further update a record in the new active database for verifying its update on the new standby database after the switch over suggests the teaching of providing transaction service on the first server ceases prior to the step of queuing at least one transaction request);

As per claims 5, 18, 34 and 45, Schwaller further teaches "a number of logged transactions executed during each repeating step is smaller than a preceding repeating step" (See col. 3, lines 38-43 wherein Schwaller's increasing or decreasing the size and frequency of transactions as well as the number of transactions per measurement period for database update traffic at the network endpoint test conducted by protocol scripts suggests a teaching of a number of logged transactions executed during each repeating step is smaller than a preceding repeating step).

As per claims 6 and 19, RepSvr further teaches "establishing a database copy on the second server includes transmitting of a database backup from the first server over a network" (See Pages 2-3, 1-6 and 3-20 wherein RepSvr's a multiple copies of replicating scheme is established on network environment, update on primary is synchronized at the replicating sites and an active database dump is loaded into standby database is equivalent to Applicant's establishing a database copy on the second server includes transmitting of a database backup from the first server over a network).

As per claims 8, 21, 35 and 46, RepSvr further teaches "transmitting the transaction log to the second server over a network" (See Pages 2-3, 1-6 and 3-20 wherein RepSvr's a multiple copies of replicating scheme is established on network environment, update on primary is synchronized at the replicating sites and an active database dump is loaded into standby database is equivalent to Applicant's transmitting the transaction log to the second server over a network).

As per claim 25, Schwaller further teaches "at least one of the server is connected to a network" (See Pages 2-3, 1-6 and 3-20 wherein RepSvr's a multiple copies of replicating scheme is established on network environment, update on primary is synchronized at the replicating sites and an active database dump is loaded into

standby database is equivalent to Applicant's at least one of the server is connected to a network).

As per claims 7, 9, 20, 22 and 26, Schwaller further teaches "the network is the Internet" (See col. 6, line 36 wherein Schwaller's network protocol include internet is equivalent to Applicant's the network is the Internet).

As per claim 10, RepSvr further teaches "queuing takes place at the first server" (See Pages 1-9, 3-20 and 3-21 wherein RepSvr's replication server allocates stable queues to store transactions following failure of database services is equivalent to Applicant's queuing takes place at the first server).

As per claim 11, RepSvr further teaches "queuing takes place at the second server" (See Page 1-3 wherein RepSvr's replicated function is initiated in a source database and stored in stable queues until it can be delivered to the destination node is equivalent to Applicant's queuing takes place at the second server).

As per claim 12, RepSvr further teaches "transmitting an application from the first server to the second server" (See Page 1-10 wherein RepSvr's replicated procedures are replicated is equivalent to Applicant's transmitting an application from the first server to the second server).

As per claims 14 and 28, RepSvr further teaches "the server that accesses the source and the server that accesses the target are the same server" (See Page 3-20 wherein RepSvr's replication server access both servers for active and standby databases is equivalent to Applicant's the server that accesses the source and the server that accesses the target are the same server).

As per claims 15 and 29, RepSvr further teaches "the server that accesses the source and the source are discrete" (See Page 1-6 wherein RepSvr's database servers and replication server suggests the server that accesses the source and the source are discrete).

As per claims 16 and 30, RepSvr further teaches "the server that accesses the target and the target are discrete" (See Page 1-6 wherein RepSvr's database servers and replication server suggests the server that accesses the target and the target are discrete).

As per claim 23, RepSvr further teaches "queuing takes place at the server that accesses the source" (See Pages 1-9 and 3-20 wherein RepSvr's replication server allocates a stable queues and accesses both servers for active and standby databases is equivalent to Applicant's queuing takes place at the server that accesses the source).

As per claim 24, RepSvr further teaches "queuing takes place at the server that accesses the target" (See Pages 1-9 and 3-20 wherein RepSvr's replication server allocates a stable queues and accesses both servers for active and standby databases is equivalent to Applicant's queuing takes place at the server that accesses the target).

As per claims 32 and 43, RepSvr further teaches "establishes the database copy by transmitting a backup of the database over a network to the second server" (See Pages 2-3, 1-6 and 3-20 wherein RepSvr's a multiple copies of replicating scheme is established on network environment, update on primary is synchronized at the replicating sites and an active database dump is loaded into standby database is equivalent to Applicant's establishes the database copy by transmitting a backup of the database over a network to the second server).

As per claims 36 and 47, RepSvr further teaches "the transition module queues the at least one transaction request at the first server" (See Pages 1-9, 3-20 and 3-21 wherein RepSvr's replication server allocates stable queues to store transactions following failure of database services or during the active database being switched over to the standby suggests the transition module queues the at least one transaction request at the first server).

As per claims 37 and 48, RepSvr further teaches "the transition module queues the at least one transaction request at the second server" (See Page 1-3 wherein RepSvr's

replicated function is initiated in a source database and stored in stable queues until it can be delivered to the destination node is equivalent to Applicant's the transition module queues the at least one transaction request at the second server).

As per claims 38 and 49, RepSvr further teaches "the transition module is activated after a time duration that the updating module is activated reaches a set point" (See See Pages 1-8, 1-10 and 3-20 wherein RepSvr's replication server receives primary data transactions, distributes and reconstructs the transactions to the replicating sites, and the site replication agent replicating the transactions to the replicated database until the primary database is switched over to the standby database is equivalent to Applicant's the transition module is activated after a number of logged transactions reaches a set point).

As per claims 39 and 50, RepSvr further teaches "the transition module is activated after a number of logged transactions reaches a set point" (See See Pages 1-8, 1-10 and 3-20 wherein RepSvr's replication server receives primary data transactions, distributes and reconstructs the transactions to the replicating sites, and the site replication agent replicating the transactions to the replicated database until the primary database is switched over to the standby database is equivalent to Applicant's the transition module is activated after a number of logged transactions reaches a set point).

5. The prior art made of record

U. Replication Server® Design Guide, Sybase Inc., May 29, 1998

A. U. S. Patent No. 6,061,725

The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

B. U. S. Patent No. 6,535,894

C. U. S. Publication 2003/0161784

D. U. S. Patent No. 6,460,107

V. Oracle7 Sever Distributed Systems, Vol. II: Replicated Data, Release 7.3, February, 1996, Oracle Corporation

W. Oracle8i Administrator's Reference, Release 3 for Sun SPARC Solaris, August 2000, Oracle Corporation

Response to Arguments

6. As to Applicant's Arguments, filed on July 14, 2005, have been fully considered and please see the discussions below:

At pages 14-18, concerning claims 1, 13, 27, 40 and 41, the Applicants argued that the RepSvr reference does not teach repeating the update stage at ever decreasing time intervals since the target server is not interacting with users and an update occurs more quickly than the execution of the same transaction on the source server.

As to the above argument, the Examiner respectfully agrees that repeating the update stage at the target server and at a shorter duration since the target server is not interacting with users and an update occurs more quickly than the execution of the same transaction on the source server. It would have been obvious to an ordinary

skilled in the art that a same transaction executed on a server having no interactive users would complete at an at a shorter duration than the execution occurs at a server having interactive users, assuming both servers having the same releases of software, horse power and algorithms for executing the transaction steps. Further, the Examiner respectfully submits that RepSvr reference or other database replication references teach the same, as evidenced by RepSvr's statement of "When both databases are up, the active database and the standby database are in sync, and the hot standby database is ready for immediate use" (See Page 4-2, last paragraph). Furthermore, the Examiner enhanced this grounds by citing the Schwaller reference for providing a teaching of adjusting the size and frequency of transactions as well as the number of transactions per measurement period for database update traffic at the network endpoint test conducted by protocol scripts such that the update stage at ever decreasing time intervals at the target server. The examiner also recognized that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the combined teaching of RepSvr and Schwaller references would have enabled the switch over of database service from an active server to standby (the database migration) an efficient and smooth transition such that database

is migrated within a preset transition time frame and service transition from one server to another is seamless on a network environment.

7. Regarding claim groups (2 and 5-12), (14-16 and 18-26), (28-30), (32 and 34-39) and (43 and 45-50), the claims are dependent on claims 1, 13, 27, 31 and 42, respectively. The Examiner applies the stated arguments as previously described in the Action.

8. In light of the forgoing arguments, the 35 U.S.C. § 103 rejections for claims *1,2,5-16,18-32,34-43 and 45-50* are hereby sustained.

Conclusions

9. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1 .136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1 .136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuen S. Lu whose telephone number is 571-272-4114. The examiner can normally be reached on 8 AM to 5 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.
Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kuen S. Lu
Patent Examiner
September 11, 2005

Mohammad Ali
Primary Examiner
September 11, 2005